

Request for Proposals for NOAA Centers of Excellence in Oceans and Human Health

Background and Rationale

This request for proposals is offered as part of NOAA's Oceans and Human Health Initiative (OHH). The OHH is a new effort at NOAA to address the increasingly important role of the oceans on human health. From increased harmful algal blooms to beach closures, from infectious diseases to marine toxins and pathogens, from seafood safety to marine mammals, and from drug discovery to pharmaceuticals, this new initiative is designed to build on the existing work throughout NOAA and enhance NOAA's expertise in the oceans and human health arena through partnerships across NOAA, with other Federal and State agencies, and with academia and the private sector.

The OHH is shaped in large part by the National Research Council 1999 report "From Monsoons to Microbes: Understanding the Ocean's Role in Human Health". This report provides much of the foundation for a national program to address two broad categories at the intersection of marine processes and human health: 1) hazards to human health from the oceans including climate and weather events, infectious diseases, and harmful algal blooms, and 2) the value of marine biodiversity to biomedicine, including marine-derived pharmaceuticals and related bioactive agents, and marine organisms for biomedical research.

As the Nation's lead oceans agency, NOAA has a significant role in research and application at the intersection of marine processes and their impact on human health. While NOAA currently works on many OHH and related issues, critical aspects are not sufficiently addressed, and existing efforts are not yet a well-integrated focus across NOAA and with other agencies. In FY03, Congressional appropriation directed the Under Secretary of Commerce for Oceans and Atmosphere to create an Oceans and Health Initiative to "...coordinate and focus agency activities on critical areas of concern and identify critical gaps in coverage," and provided \$8,000,000 for "critical research and projects aimed at closing identified gaps." The language also directs NOAA to work with the National Science Foundation (NSF) and the National Institutes for Environmental Health and Safety (NIEHS) in developing a joint program that builds on and complements existing NOAA programs; establish an external peer reviewed grant process; and provide for the selection and funding of internationally recognized "distinguished" scholars to work in collaboration with NOAA researchers.

To ensure coordination with the academic, private sector, and other agencies, the OHH sponsored an initial "Workshop on the NOAA Oceans and Human Health Initiative," to discuss program scope and structure. Input provided at that workshop is also taken into consideration when planning and implementing the OHH and this funding notice in particular.

The OHH Program Structure

The approved program plan for OHH calls for the establishment of:

- Center(s) of Excellence in Oceans and Human Health, and an internal NOAA competition (\$3,600,000)
- External Peer-Reviewed Grants Program (\$3,000,000)
- Distinguished Scholars and Traineeship Program (\$880,000)
- Workshop and Community Building Activities (\$201,800)
- Small Business Innovative Research (\$200,000)

This programmatic structure provides a framework to enhance NOAA's expertise in oceans and human health, build strong linkages with the academic and private sector communities, and integrate with other related Federal programs, particularly the National Science Foundation (NSF) and the National Institute of Environmental Health Sciences (NIEHS) Centers on Oceans and Human Health (COHH).

Since this is a new program, the Program Manager will establish an *ad hoc* Steering Committee comprised of Federal and non-federal scientists and program managers to provide both scientific and programmatic guidance. The Program Manager will work closely with the *ad hoc* Steering Committee and the broader OHH community in further refining the program, developing a strategic plan, and addressing key outstanding issues such as the integration of OHH with the ocean and coastal observation community, data integration and management, and evaluation.

The OHH Goal

Building on NOAA's strengths in assessment, prediction, and exploration, the goals of the OHH are, through an ecosystem approach, to understand and predict ocean-related human health impacts for public health and natural resource policy and decision-making, and to promote the discovery of marine organisms and bioactive agents for human health benefit.

In addition to the above-mentioned goal, the OHH also has an institutional goal of building not only internal capacity across NOAA, but also a strong partnership with academia and the private sector, and a program well integrated with other Federal agency activities, such as the COHH. The OHH mission and goals will continue to be refined in collaboration with the community, an *ad hoc* steering committee that is being established, and the NOAA-wide OHH working group.

Programmatically, the OHH is part of NOAA's Mission Goal One, "to protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management." From basic research to infrastructure to operations, the suite of programs that comprise the OHH will be conducted in support of at least Mission Goal One, and NOAA's mission, which is "to understand and predict changes in the Earth's

environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs.”

Center(s) of Excellence in Oceans and Human Health

Scope

Consistent with NOAA's mission, the Center(s) should utilize an ecosystems approach to understanding the multiple pathways through which the oceans affect a suite of human health related outcomes. Topics may include harmful algal blooms, marine toxins and pathogens, marine-related infectious diseases, seafood testing and safety, beach closures and coastal public health issues, as well as marine-derived pharmaceuticals and related bioactive agents, and marine organisms as sentinel species and for biomedical research. To foster a cutting-edge research capacity, the Center(s) may also focus on the development of new capabilities in core disciplines necessary for the proposed work such as marine genomics and conservation medicine. The OHH also adopts NOAA's traditional definition of coastal areas, which includes the Great Lakes.

Goals and Criteria

This Request for Proposals (RFP) is offered as part of NOAA's new Oceans and Human Health Initiative. This RFP is intended to develop and enhance NOAA's core capacity on oceans and health related issues through the establishment of one or more NOAA-led Center(s) of Excellence in Oceans and Human Health. The Center(s) will address at least one of the topic areas above (see section on scope) through both research and infrastructure commitments. The Center(s), in conjunction with its partners, should be organized to 1) strengthen NOAA's capabilities and capacity to conduct leading-edge research at the intersection of ocean processes with human health outcomes in areas particularly related to NOAA's mission, 2) provide a focal point for NOAA and the academic community on the topic, 3) enhance educational and outreach opportunities in this emerging scientific area, and 4) foster robust linkages between the marine science, biomedical research, public health and natural resource communities.

The Center(s) will be led by a NOAA laboratory or other NOAA entity, but should have or establish strong, long-term multi-institutional partnerships which could include other federal and state agencies, academia, and the private sector. Applicants should demonstrate previous research or program capacity in the topic area, mission requirement, scientific expertise, administrative capacity, and demonstrated ability to work across disciplines. The Center(s) should:

1. Enhance and support existing infrastructure and scientific capacity, including data collection, necessary to develop and maintain an expertise in oceans and human health.
2. Be inter-disciplinary and multi-institutional with emphasis given to developing and maintaining strong, long-term collaborative partnerships among NOAA scientists, other federal and state researchers and decision makers, academia, and the private sector. This collection of institutions will be led by a NOAA partner and may be co-located or virtually connected, but there should be a physical

- center with primary responsibility for managing the Center, its partnerships and research as well as administrative duties. These funds are not intended for the construction of new Center facilities, but may be used to enhance, update, or improve existing infrastructure necessary to support the Center(s), its research and related activities.
3. Include an outreach and education component, including a plan for engaging appropriate public health decision-makers or natural resource managers.
 4. Establish a mechanism for attracting and involving international scholars as well as pre- and post-doctoral scientists in the Centers' research and educational activities.
 5. Submit a five-year plan to covering core Center functions, clear roles and expectations of the partner institutions, scientific scope, research projects to be conducted, a plan for engaging the appropriate public health or natural resource managers, and detailed budget annually for five years, an outreach and educational plan, and a plan for developing pre- and post-doctoral training opportunities, and opportunities for attracting or working with distinguished scientists outside the Federal system.
 6. Demonstrate previous work or capacity in the proposed research area.
 7. Demonstrate institutional and administrative capacity to support and manage the multi-institutional and interdisciplinary Center and its partnerships.
 8. Provide a plan for managing data collected through the Center and proposed projects such that the data are available and accessible to a broader scientific and policy community. (See also section below on data).
 9. Incorporate opportunities for integrating with other NOAA Centers of Excellence in Oceans and Human Health, NOAA-funded OHH external research grants and internally funded pilot projects, and the NSF/NIEHS Centers on Oceans and Human Health.
 10. Include a mechanism for evaluating Center performance and progress. This will be further refined with the Program Manager. (See section below on Reporting and Evaluation)
 11. The Center(s) will be responsible for providing a periodic assessment of the state of the science, including a synthesis of research progress and findings for the OHH suite of programs. The Center(s) proposals should therefore include a plan for gathering this information in close collaboration with the program manager. (See section below on Reporting and Evaluation.)

Funding Availability

For this funding opportunity up to \$3,300,000 will be available to fund up to three NOAA Centers of Excellence in Oceans and Human Health. Funding will go to the lead NOAA institution but may then be dispersed according the Centers' program plan. NOAA intends to fund the Center(s) annually for a five year period, based on funding availability.

Review Process

The Center(s) proposals will be reviewed by an independent panel to consist of scientists and program managers. Mail reviews will be solicited as needed for further input on

specific scientific or programmatic issues. The proposals will be evaluated based on: relevance to this announcement and to NOAA's mission; scientific merit of the core facility and proposed research; demonstrated ability to sustain a commitment to multi-disciplinary collaboration between NOAA, other agencies, academia, the private sector and public health and natural resource decision makers; overall budget, and likelihood of success. The proposals will be rated individually by the panel members, and then ranked according to overall score. This ranking will then be taken into consideration with other program policy factors in determining the final award.

Other Center Responsibilities

Reporting and Evaluation

To ensure the OHH provides useful policy information and feedback to the program, the Center(s) will also be asked to take the lead in partnership with the Program Manager, to synthesize and assess on a regular basis research findings, data collected, and related activities for the OHH as a whole, including the Center(s) as well as the external grants and internal pilot projects. The Program Manager will also work with the ad hoc OHH Steering Committee, Center(s), and broader OHH community to develop appropriate reporting and assessment mechanisms to interested policy bodies, including the Legislative branch.

Evaluation is an essential element of any successful program, and the Program Manager will work with the Center(s) to establish appropriate evaluation mechanisms based on the Center goal and scope of work. The Center(s) should be prepared to participate in an evaluation process and should incorporate management principles that allow for research and operational adjustment, based on feedback from evaluation.

Data

To ensure maximum utility, comparability, and compatibility of data collected under the OHH, the program manager will work with the ad hoc steering committee, the Center(s), and the broader community to develop a cohesive data management plan for the OHH. At present, each Center must provide a plan for managing the data collected as part of their OHH activities. This may be either at the NOAA Data Centers [National Ocean Data Center (NODC), National Climate Data Center (NGDC), National Geophysical Data Center (NGDC)], the OHH Center of Excellence itself, another NOAA laboratory or facility, or other appropriate data management entity. The Centers may also, in collaboration with successful research grantees, develop a plan for and research grantee is responsible for developing a plan to deliver any data collected.

Center(s) applications should include a plan for managing data produced from the Center(s) OHH research and related activities. The Center(s) should also be prepared to participate in the development of a plan for managing data across OHH. The Center(s) should also make provisions to work, if requested, with individual federal or non-federal researchers funded by OHH to manage those data or assist in identifying appropriate data management entity.

Proposal Submission and Dates

Proposals will be due to the Program Manager no later than Tuesday, **February 17, 2004**. Proposals should be no longer than 35 pages, with one-inch margins and at least 11-point font. Proposals may be submitted electronically as a single file. Proposals should include: a one-page abstract; a page listing all partners, affiliations and contact information; a statement of work (including a statement of the problem, the proposed work, and work plan based on the above criteria), budget (for a five year plan and annually); brief curriculum vitae's for key partners including key publications. Proposals should be submitted electronically to the NOAA Office of Global Programs at ogpgrants@noaa.gov. For administrative questions, please contact Bree Thompson at 301-427-2089 ext. 198, or Bree.Thompson@noaa.gov. You may direct any programmatic questions to the OHH Program Manager, Juli Trtanj at 301-427-2089, ext 134. or Juli.Trtanj@noaa.gov.